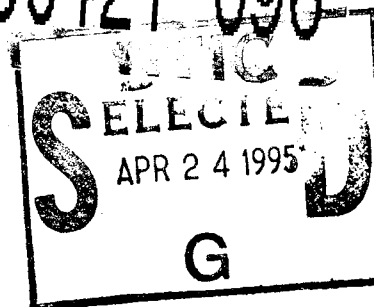


RAND Research Brief

MARCH 1995

Snakes in the Eagle's Nest Ground Attacks on Air Bases, 1940-1992

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Current research on global airpower trends suggests that, for the foreseeable future, few opponents will be able to challenge the U.S. Air Force (USAF) in the air. Potential adversaries, therefore, are likely to look for alternative means of countering U.S. airpower. A recent RAND study considers various ways that adversaries can threaten U.S. air operations during a future conflict. A part of this larger study, *Snakes in the Eagle's Nest: A History of Ground Attacks on Air Bases*, focuses on air base attacks from 1940 to 1992.

The research shows that ground attacks on air bases have been much more frequent and successful than is commonly appreciated. In typical cases, small and lightly armed units, striking quickly, succeeded in damaging and destroying valuable aircraft and equipment. The study considers hundreds of such attacks, giving primary attention to three case-study regions in which most of the examples occurred: Crete and North Africa during World War II and Southeast Asia during the Vietnam War. To identify useful lessons for future conflicts, the author proceeds by seeking answers to the following questions:

- What were the objectives of the attacks?
- What attacker tactics and weapons were most effective?
- How were attacking forces inserted into the enemy rear area?
- What defensive countermeasures worked?
- Were any promising defensive measures overlooked?
- What were the strategic effects of the attacks?

FOUR BASIC OBJECTIVES

Ground attacks on air bases may be classified in terms of four separate objectives: (1) capture the airfield, (2) deny defenders use of the airfield, (3) harass defenders,

and (4) destroy aircraft and equipment. Of the 645 attacks analyzed in the study, 384 (60 percent) attempted to destroy aircraft and equipment. Efforts to capture airfields were rare, especially after World War II, making up only 6 percent of the total. Only 7 percent of the attacks had the primary aim of denying use of airfields. The remaining 27 percent had harassment of defenders as their main goal. During the Vietnam War, virtually all air base attacks focused on only two objectives: destroying aircraft and harassing defenders.

ATTACK CHARACTERISTICS

In the World War II examples, penetration of air bases was the most common attacking tactic. In Southeast Asia, however, Viet Cong and North Vietnamese Army attackers used standoff weapons 96 percent of the time. Recent attacks have used both techniques: Kurdish and Filipino insurgents used penetrating tactics; insurgents in El Salvador and Afghanistan relied on standoff weapons. The size of the assaulting forces has varied according to the objective. Whereas attempts to capture airfields may have required forces of regimental strength, most efforts to destroy aircraft and equipment have needed only limited forces. Such attacks have usually been conducted by teams no larger than platoons.

INSERTION TECHNIQUES

With the exception of some motorized raids during World War II, virtually all air base attackers had arrived at the bases on foot. Indeed, all 493 attacks from the Vietnam War era were conducted by forces unaided by motorized vehicles. Foot travel was the most common insertion technique in the other conflicts, closely followed by combined vehicle-and-foot insertion, primarily during the British North Africa operations.

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DEFENSE MEASURES—SUCCESSFUL AND OVERLOOKED

Most large-unit attacks on airfields succeeded because defending forces were outnumbered, outgunned, or out-classed. Against both standoff and penetrating attacks intended to destroy aircraft, shortages in high-quality rear-area security forces and a lack of surveillance assets were the most common weaknesses. Axis forces in North Africa demonstrated another weakness: a notable slowness to develop countermeasures to penetrations. Conversely, U.S. forces in Vietnam made base penetration all but impossible by extensive use of minefields, fences, guard posts, and lights. These measures forced attackers to rely on standoff weapons such as mortars and rockets.

In response, U.S. defensive measures included greater dispersion of aircraft, construction of revetments, and, ultimately, construction of concrete shelters for fighter aircraft. The most effective means to deter and prevent standoff attacks would have been to control the standoff belt that extended to 11 kilometers around each base and required defenders to patrol an area that covered over 200 square miles. Some success at reducing the threat from this standoff belt was achieved by helicopter reconnaissance flights and patrols by friendly ground forces. However, large civilian populations living near the airfields and the rugged terrain surrounding them hampered these efforts. Military Assistance Command, Vietnam (MACV), could have diminished the standoff threat by making air base defense a high priority for U.S. ground forces and airborne surveillance assets. MACV's refusal to do so made this threat difficult to counter and kept USAF bases vulnerable to the end of the war.

STRATEGIC EFFECTS OF THE ATTACKS

In one case—British special forces' attacks on Axis airfields in North Africa—the loss of aircraft from ground attacks was so severe and the airpower balance so precarious that these small actions made a major contribution to the Royal Air Force's battle against the *Luftwaffe*. In other

instances, the loss of airfields to attacking forces enabled the attacker's air force to move in and extend its range. The U.S. island-hopping campaign in the Pacific during World War II, for example, was focused on capturing airfields. The Japanese attack on Midway sought to capture the island for its airfield; Japanese failure to do so while suffering heavy losses marked a turning point in the war.

In the Vietnam War, ground attacks caused loss of aircraft, materiel, and personnel over a period of seven years. In addition, the threat forced defenders to devote substantial resources to the protection of airfields. However, despite a number of publicized incidents and repeated attacks on several bases, the level of destruction was not high. Most attacks did little or no damage, and only a handful of high-value aircraft were damaged or destroyed. Although these attacks constrained operations on several occasions, the aircraft losses they caused (only 4 percent of total USAF losses) were not significant and do not appear to have materially affected the outcome of the war.

CONCLUSIONS

The analysis of airfield attacks shows that basic techniques have not changed dramatically over the past 50 years. With good intelligence, mission-planning, and weapon skills, low-technology forces have demonstrated an ability to inflict considerable damage. Their simple-but-effective tactics and the strategic rationale for the attacks are as relevant today as they were in 1940. Indeed, the centrality of airpower to modern warfare makes airfields even more tempting targets than they have been. If the historical experience is any indication, standoff threats will pose a particularly daunting challenge, especially since new precision-guided munitions for mortars and other standoff weapons could give small standoff attacks a lethality that they lacked in the past. Advances in technology, of course, offer new opportunities for defenders as well. It remains to be seen which side will exploit such opportunities most effectively.

RAND research briefs summarize research that has been more fully documented elsewhere. This research brief describes work done in the Strategy, Doctrine, and Force Structure Program of RAND's Project AIR FORCE and documented in Snakes in the Eagle's Nest: A History of Ground Attacks on Air Bases, by Alan Vick, MR-553-AF, 1995, 165 pp., \$15.00, which is available from RAND Distribution Services, Telephone: 310-451-7002; FAX: 310-451-6915; or Internet: order@rand.org. Abstracts of all RAND documents are available for review on the World Wide Web. RAND's URL: <http://www.rand.org/> RAND is a nonprofit institution that helps improve public policy through research and analysis. RAND's publications do not necessarily reflect the opinions or policies of its research sponsors.

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Bibliography

Produced Sunday, April 2, 1995 at 9:20 AM

088: RAND/RB-22
 245: 00 Snakes in the eagle's nest :|bground attacks on air bases,
 1940-1992.
 260: Santa Monica, CA :|bRAND,|c1995.
 300: [1] p. ;|c28 cm.
 506: 1 UNCLASSIFIED
 787: Summarizes RAND/MR-553-AF
 982: 3

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